Practiti n r's D ck t N . 053706-5001-01

PATENT

Preliminary Classification:

Proposed Class:

Subclass:

NOTE: "All applicants are requested to include a preliminary classification on newly filed patent applications. The preliminary classification, preferably class and subclass designations, should be identified in the upper right-hand corner of the letter of transmittal accompanying the application papers, for example 'Proposed Class 2, subclass 129.' " M.P.E.P. § 601, 7th ed.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Mail Stop Patent Application **Commissioner for Patents** P.O. Box 1450 Alexandria VA 22313-1450

NEW APPLICATION TRANSMITTAL

Transmitted herewith for filing is the patent application of	1 1. H Sharman
Transmitted herewith for filing is the patent application of Inventor(s): Robert D. Bjornson, Wicholas J. Carriero, Stephen B. Weston and James E. Wing.	maren in sherman,
stephen B. Weston and James i E. Wing.	
WARNING: 37 C.F.R. § 1.41(a)(1) points out:	

"(a) A patent is applied for in the name or names of the actual inventor or inventors.

"(1) The inventorship of a nonprovisional application is that inventorship set forth in the oath or declaration as prescribed by § 1.63, except as provided for in § 1.53(d)(4) and § 1.63(d). If an oath or declaration as prescribed by § 1.63 is not filed during the pendency of a nonprovisional application, the inventorship is that inventorship set forth in the application papers filed pursuant to § 1.53(b), unless a petition under this paragraph accompanied by the fee set forth in § 1.17(i)

is filed supplying or changing the name or names of the inventor or inventors." For (title):	
Method and Apparatus For High-Performance Sequence Comparison	
(Express Mail label number is mandatory.) (Express Mail certification is optional.)	Application
I hereby certify that this paper, along with any document referred to, is being deposited with the United States. Postal Service on this date November 1, 1997, in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 as "Express Mail Post Office to Addressee" Mailing Label No.)
Daniel H. golub	
(type or print name of person mailing paper)	
Signature of person certifying	

WARNING: Certificate of mailing (first class) or facsimile transmission procedures of 37 C.F.R. 1.8 cannot be used to obtain a date of mailing or transmission for this correspondence.

*WARNING: Each paper or fee filed by "Express Mail" must have the number of the "Express Mail" mailing label placed thereon prior to mailing. 37 C.F.R. 1.10(b). "Since the filing of correspondence under § 1.10 without the Express Mail mailing label thereon

is an oversight that can be avoided by the exercise of reasonable care, requests for waiver of this requirement will not be granted on petition." Notice of Oct. 24, 1996, 60 Fed. Reg. 56,439, at 56,442.

(New Application Transmittal [4-1]—page 1 of 15)

. Type	of Application
This n	ew application is for a(n)
	(check one applicable item below)
Ū ∠	Original (nonprovisional)
	Design
	☐ Plant
WARNIN	VG: Do not use this transmittal for a completion in the U.S. of an International Application under 35 U.S.C. § 371(c)(4), unless the International Application is being filed as a divisional, continuation or continuation-in-part application.
WARNIN	VG: Do not use this transmittal for the filing of a provisional application.
NOTE:	If one of the following 3 items apply, then complete and attach ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF A PRIOR U.S. APPLICATION CLAIMED and a NOTIFICATION IN PARENT APPLICATION OF THE FILING OF THIS CONTINUATION APPLICATION.
	Divisional.
V	Continuation.
Е	Continuation-in-part (C-I-P).
2. Ben	efit of Prior U.S. Application(s) (35 U.S.C. §§ 119(e), 120, or 121)
NOTE:	"A nonprovisional application or international application designating the United States of America may claim an invention disclosed in one or more prior-filed copending nonprovisional applications of international applications designating the United States of America. In order for an application to claim the benefit of a prior-filed copending nonprovisional application or international application designating the United States of America, each prior-filed application must name as an inventor at least one inventor named in the later-filed application and disclose the named inventor's invention claimed in at least one claim of the later-filed application in the manner provided by the first paragraph of 35 U.S.C. 112. In addition, each prior-filed application must be:
	(i) An international application entitled to a filing date in accordance with PCT Article 11 and designating the United States of America; or
	(ii) Complete as set forth in § 1.51(b); or
	(iii) Entitled to a filing date as set forth in § 1.53(b) or § 1.53(d) and include the basic filing fee se forth in § 1.16; or
	(iv) Entitled to a filing date as set forth in § 1.53(b) and have paid therein the processing and retentio fee set forth in § 1.21(l) within the time period set forth in § 1.53(f).
	37 C.F.R. § 1.78(a)(1).

WARNING: If an application claims the benefit of the filing date of an earlier filed application under 35 U.S.C.

See Notice of April 14, 1995, 60 Fed. Reg. 20,195, at 20,205.

§§ 120, 121 or 365(c), the 20-year term of that application will be based upon the filing date of the earliest U.S. application that the application makes reference to under 35 U.S.C. §§ 120, 121 or 365(c). (35 U.S.C. § 154(a)(2) does not take into account, for the determination of the patent term, any application on which priority is claimed under 35 U.S.C. §§ 119, 365(a) or 365(b).) For a c-i-p application, applicant should review whether any claim in the patent that will issue is supported by an earlier application and, if not, the applicant should consider canceling the reference to the earlier filed application. The term of a patent is not based on a claim-by-claim approach.

(New Application Transmittal [4-1]-page 2 of 15)

WARNING: 37 C.F.R. § 1.78(a)(2) deals with the time in which the claim for the benefit of an earlier filing date must be made and states:

"(2)(i) Except for a continued prosecution application filed under § 1.53(d), any nonprovisional application or international application designating the United States of America claiming the benefit of one or more prior-filed copending nonprovisional applications or international applications designating the United States of America must contain or be amended to contain a reference to each such prior-filed application, identifying it by application number (consisting of the series code and serial number) or international application number and international filing date and indicating the relationship of the applications. Cross references to other related applications may be made when appropriate (see § 1.14).

(ii) This reference must be submitted during the pendency of the later-filed application. If the later-filed application is an application filed under 35 U.S.C. 111(a), this reference must also be submitted within the later of four months from the actual filing date of the later-filed application or sixteen months from the filing date of the prior-filed application. If the later-filed application is a nonprovisional application which entered the national stage from an international application after compliance with 35 U.S.C. 371, this reference must also be submitted within the later of four months from the date on which the national stage commenced under 35 U.S.C. 371(b) or (f) in the later-filed international application or sixteen months from the filing date of the prior-filed application. These time periods are not extendable. Except as provided in paragraph (a)(3) of this section, the failure to timely submit the reference required by 35 U.S.C. 120 and paragraph (a)(2)(i) of this section is considered a waiver of any benefit under 35 U.S.C. 120, 121, or 365(c) to such prior-filed application. The time periods in this paragraph do not apply if the later-filed application is:

- (A) An application for a design patent;
- (B) An application filed under 35 U.S.C. 111(a) before November 29, 2000; or
- (C) A nonprovisional application which entered the national stage after compliance with 35 U.S.C. 371 from an international application filed under 35 U.S.C. 363 before November 29, 2000.
- (iii) If the later-filed application is a nonprovisional application, the reference required by this paragraph must be included in an application data sheet (§ 1.76), or the specification must contain or be amended to contain such reference in the first sentence following the title.
- (iv) The request for a continued prosecution application under § 1.53(d) is the specific reference required by 35 U.S.C. 120 to the prior-filed application. The identification of an application by application number under this section is the identification of every application assigned that application number necessary for a specific reference required by 35 U.S.C. 120 to every such application assigned that application number."

NOTE: If the new application being transmitted is a divisional, continuation or a continuation-in-part of a parent case, or where the parent case is an International Application which designated the U.S., or benefit of a prior provisional application is claimed, then check the following item and complete and attach ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICA-TION(S) CLAIMED.

The new application being transmitted claims the benefit of prior U.S. application(s). Enclosed are ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED.

3. Papers Enclosed

Required for filing date under 37 C.F.R. § 1.53(b) (Regular) or 37 C.F.R. § 1.153 rign) Application

LPages of specification of text

Pages of claims

13 Sheets of drawing

WARNING: DO NOT submit original drawings. A high quality copy of the drawings should be supplied when filing a patent application. The drawings that are submitted to the Office must be on strong, white, smooth, and non-shiny paper and meet the standards according to § 1.84. If corrections to the drawings are necessary, they should be made to the original drawing and a high-quality copy of the corrected original drawing then submitted to the Office. Only one copy is required or desired. For comments on proposed then-new 37 C.F.R. § 1.84, see Notice of March 9, 1988 (1990 O.G. 57-62).

NOTE: "Identification of drawings. Identifying indicia, if provided, should include the title of the invention, inventor's name and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet and centered within the top margin." (complete the following, if applicable) The enclosed drawing(s) are photograph(s). NOTE: 37 C.F.R. 1.84 "(b) Photographs. "(1) Black and white. Photographs, including photocopies of photographs, are not ordinarily permitted in utility and design patent applications. The Office will accept photographs in utility and design patent applications, however, if photographs are the only practicable medium for illustrating the claimed invention. For example, photographs or photomicrographs of; electrophoresis gels. blots (e.g., immunological, western, Southern, and northern), auto radiographs, cell cultures (stained and unstained), histological tissue cross sections (stained and unstained), animals, plants, in vivo imaging, thin layer chromatography plates, crystalline structures, and, in a design patent application, ornamental effects, are acceptable. If the subject matter of the application admits of illustration by a drawing, the examiner may require a drawing in place of the photograph. The photographs must be of sufficient quality so that all details in the photographs are reproducible in the printed (2) Color photographs. Color photographs will be accepted in utility and design patent applications" if the conditions for accepting color drawings and black and white photographs have been satisfied. See paragraphs (a)(2) and (b)(1) of this section." The enclosed drawing(s) are in color. Three (3) sets of color drawings and a "PETITION TO ACCEPT COLOR DRAWING(S)" are attached, 37 C.F.R. §§ 1.84(a)(2) and 1.84(b). NOTE: 37 C.F.R. 1.84(a) "(2) Color. On rare occasions, color drawings may be necessary as the only practical medium by which to disclose the subject matter sought to be patented in a utility or design patent application or the subject matter of a statutory invention registration. The color drawings must be of sufficient quality such that all details in the drawings are reproducible in black and white in the printed patent. Color drawings are not permitted in international applications (see PCT Rule 11.13), or in an application, or copy thereof, submitted under the Office electronic filing system. The Office will accept color drawings in utility or design patent applications and statutory invention registrations only after granting a petition filed under this paragraph explaining why the color drawings are necessary. Any such petition must include the following: (i) The fee set forth in § 1.17(h); (ii) Three (3) sets of color drawings; (iii) A black and white photocopy that accurately depicts, to the extent possible, the subject matter shown in the color drawing; and (iv) An amendment to the specification to insert (unless the specification contains or has been previously amended to contain) the following language as the first paragraph of the brief description of the drawings: The patent or application file contains at least one drawing executed in color. Copies of this patent or patent application publication with color drawing(s) will be provided by the Office upon request and payment of the necessary fee." formal informal B. Other Papers Enclosed Pages of declaration and power of attorney Pages of abstract

_ Other

4. Add	litic	nal (papers enclosed
		Ame	endment to claims
			Cancel in this applications claims before calculating the filing fee. (At least one original independent claim must be retained for filing purposes.)
			Add the claims shown on the attached amendment. (Claims added have been numbered consecutively following the highest numbered original claims.)
[3	Preli	iminary Amendment
	7	Info	rmation Disclosure Statement (37 C.F.R. § 1.98)
NOTE:			R. § 1.97 (b) An information disclosure statement shall be considered by the Office if filed by licant within any one of the following time periods:
			ithin three months of the filing date of a national application other than a continued prosecution cation under § 1.53(d);
			lithin three months of the date of entry of the national stage as set forth in § 1.491 in an ational application;
			efore the mailing of a first Office action on the merits; or
WARNI	ING	coi 37	order to ensure consideration of information previously submitted but which has not been nsidered in the parent application, an applicant must resubmit the information, complying with C.F.R. § 1.97 and 37 C.F.R. § 1.98, in the continuing application filed under 37 C.F.R. § 1.53(b). e § 609B(3), M.P.E.P., 7th Edition, Rev. 1.
	<u>y</u>	Forr	m PTO-1449 (PTO/SB/08A and 08B)
		Cita	ations
		Dec	elaration of Biological Deposit
		pert	emission of "Sequence Listing," computer readable copy and/or amendment taining thereto for biotechnology invention containing nucleotide and/or no acid sequence.
		Auth tive	horization of Attorney(s) to Accept and Follow Instructions from Representa-
		Spe	cial Comments
[Oth	er Application Data Sheet
			or oath (including power of attorney)
NOTE:	th by an th by be de	e prio	y executed declaration is not required in a continuation or divisional application provided that or nonprovisional application contained a declaration as required, the application being filed is or fewer than all the inventors named in the prior application, there is no new matter in the tion being filed, and a copy of the executed declaration filed in the prior application (showing nature or an indication thereon that it was signed) is submitted. The copy must be accompanied atement requesting deletion of the names of person(s) who are not inventors of the application filed. If the declaration in the prior application was filed under § 1.47, then a copy of that tion must be filed accompanied by a copy of the decision granting § 1.47 status or, if a nonsigning under § 1.47 has subsequently joined in a prior application, then a copy of the subsequently ad declaration must be filed. See 37 C.F.R. §§ 1.63(d)(1)–(3).
NOTE:	is al	direct obrevia ountry	tration filed to complete an application must be executed, identify the specification to which it ted, identify each inventor by full name including family name and at least one given name, without ation together with any other given name or initial, and the residence, post office address and or citizenship of each inventor, and state whether the inventor is a sole or joint inventor. 37 § 1.63(a)(1)–(4).

NOTE: "The inventorship of a nonprovisional application is that inventorship set forth in the oath or declaration as prescribed by § 1.62, except as provided for in § 1.53(d)(4) and § 1.63(d). If an oath or declaration as prescribed by § 1.63 is not filed during the pendency of a nonprovisional application, the inventorship is that inventorship set forth in the application papers filed pursuant to § 1.53(b), unless a petition under this paragraph accompanied by the fee set forth in § 1.17(i) is filed supplying or changing the name

or names of the inventor or inventors." 37 C.F.R. § 1.41(a)(1).

	nclose	d
E	xecute	d by
	•	(check all applicable boxes)
5	inve	entor(s).
		al representative of inventor(s). 37 C.F.R. §§ 1.42 or 1.43.
C	•	t inventor or person showing a proprietary interest on behalf of inventor or refused to sign or cannot be reached.
		This is the petition required by 37 C.F.R. § 1.47 and the statement required by 37 C.F.R. § 1.47 is also attached. See item 13 below for fee.
	Not End	closed.
the may	U.S. app	ling is a completion in the U.S. of an International Application or where the completion of dication contains subject matter in addition to the International Application, the application ted as a continuation or continuation-in-part, as the case may be, utilizing ADDED PAGE PPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION CLAIMED.
[plication is made by a person authorized under 37 C.F.R. § 1.41(c), on half of all the above named inventor(s).
(The dec	claratio	n or oath, along with the surcharge required by 37 C.F.R. § 1.16(e) can be filed subsequently).
		Showing that the filing is authorized. (not required unless called into question. 37 C.F.R. § 1.41(d))
. Invento	rship S	statement
WARNING:		named inventors are each not the inventors of all the claims an explanation, including the ship of the various claims at the time the last claimed invention was made, should be ted.
The inve	ntorship	o for all the claims in this application are:
	The sa	me.
		or
		e same. An explanation, including the ownership of the various claims at the last claimed invention was made,
	□ is	submitted.
	□ wil	Il be submitted.
7. Langua	age	
An ∞ red	English quired by	tion including a signed oath or declaration may be filed in a language other than English. translation of the non-English language application and the processing fee of \$130.00 or 37 C.F.R. § 1.17(k) is required to be filed with the application, or within such time as may the Office. 37 C.F.R. § 1.52(d).
	English	
	Non-E	
		ne attached translation includes a statement that the translation is accute. 37 C.F.R. § 1.52(d).

. Assig	nment		
	An assignment of the	e invention to	
		eparate "COVER SHEET FOR A PANYING NEW PATENT APPLICAT Inched.	•
	☐ will follow.		
	-	d with a new application, send two separate of 7 Notice of May 4, 1990 (1114 O.G. 77-78).	
WARNIN		TIFICATE UNDER 37 C.F.R. § 3.73(b)" must d by an assignee. Notice of April 30, 1993,	
	This is a ☐ continu	ation 🗌 divisional application ar	nd the assignment
	document for the pa	rent application 0 /	was filed
	on	 .	
			Reel
			Frame
9. Certif	fied Copy		
Certifie	d copy(ies) of applicat	ion(s)	
Coun	try	Appln. No.	Filed
Coun	try	Appln. No.	Filed
Coun	try	Appln. No.	Filed
from whi	ch priority is claimed		
	is (are) attached.		
	will follow.		
NOTE:	37 C.F.R. § 1.55 Claim for f "(a) * * *	oreign priority.	
No.	during the pendency of the of the application or sixted period is not extendable. The as well as any foreign application for which intellectual property authorized.	ion filed under 35 U.S.C. 111(a), the claim to exapplication, and within the later of four more en months from the filing date of the prior. The claim must identify the foreign application polication for the same subject matter and has the priority is claimed, by specifying the ap- prity), day, month, and year of its filing. The ta- tition under 35 U.S.C. 111(a) if the application	on the actual filing date foreign application. This time on for which priority is claimed, aving a filing date before that plication number, country (or time periods in this paragraph
	(A) A design application; o	or.	
	(B) An application filed be	fore November 29, 2000.	
	* * * * *		
	priority under 35 U.S.C. paragraph (a) of this sectio 119(a)-(d) or 365(a) is pres claim may be accepted if the number, country (or intelle	scepted in accordance with the provisions on 119(a)-(d) or 365(a) not presented within in is considered to have been waived. If a classented after the time period provided by partie claim identifying the prior foreign application application to accept a delayed claim for prior panied by:	the time period provided by tim for priority under 35 U.S.C. ragraph (a) of this section, the on by specifying its application onth, and year of its filing was

- (1) The claim under 35 U.S.C. 119(a)-(d) or 365(a) and this section to the prior foreign application, unless previously submitted;
 - (2) The surcharge set forth in § 1.17(t); and
- (3) A statement that the entire delay between the date the claim was due under paragraph (a)(1) of this section and the date the claim was filed was unintentional. The Commissioner may require additional information where there is a question whether the delay was unintentional."

NOTE: 37 C.F.R. § 1.63 Oath or declaration.

- "(a) An oath or declaration filed under § 1.51(b)(2) as a part of a nonprovisional application must:
- (c) Unless such information is supplied on an application data sheet in accordance with § 1.76, the oath or declaration must also identify:
 - (2) Any foreign application for patent (or inventor's certificate) for which a claim for priority is made pursuant to § 1.55, and any foreign application having a filing date before that of the application on which priority is claimed, by specifying the application number, country, day, month, and year of its filing."

The foreign application forming the basis for the claim for priority must be referred to in the oath or declaration. 37 C.F.R. § 1.55(a) and 1.63.

NOTE: This item is for any foreign priority for which the application being filed directly relates. If any parent U.S. application or International Application from which this application claims benefit under 35 U.S.C. § 120 is itself entitled to priority from a prior foreign application, then complete item 18 on the ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED.

10. Fee Calculation (37 C.F.R. § 1.16)

A. Regular application

	CLAIMS AS FILE)	
Number filed	Number Extra	Rate	Basic Fee 37 C.F.R. § 1.16(a) \$750.00 770.0
Total Claims (37 C.F.R. § 1.16(c)) 32 – 20 =	= 12×	x \$ 18.00	\$216.00
Independent Claims (37 C.F.R. § 1.16(b))	= <i>O</i> >	\$ 84.00	\$ 0.00
Multiple dependent claim(s), if any (37 C.F.R. § 1.16(d))	O +	- \$280.00	\$ 0.00
☐ Amendment cancelling of☐ Amendment deleting mu			
☐ Fee for extra claims is a	not being paid at	this time.	
NOTE: If the fees for extra claims are not prior to the expiration of the time notice of fee deficiency. 37 C.F.I	e period set for respon		and Trademark Office in any
Filing	Fee Calculation		\$ 986.00

В.	Uesign application (\$330.00—37 C.F.R. § 1.16(f))	
	Filing Fee Calculation	\$
C.	Plant application (\$520.00—37 C.F.R. § 1.16(g))	
	Filing fee calculation	\$

11. Assertion of Small Entity Status

Applicant hereby asserts status as a small entity under 37 C.F.R. § 1.27

NOTE: 37 C.F.R. § 1.27(c) deals with the assertion of small entity status, whether by a written specific declaration thereof or by payment as a small entity of the basic filing fee or the fee for the entry into the national phase and states:

- "(c) Assertion of small entity status. Any party (person, small business concern or nonprofit organization) should make a determination, pursuant to paragraph (f) of this section, of entitlement to be accorded small entity status based on the definitions set forth in paragraph (a) of this section, and must, in order to establish small entity status for the purpose of paying small entity fees, actually make an assertion of entitlement to small entity status, in the manner set forth in paragraphs (c)(1) or (c)(3) of this section, in the application or patent in which such small entity fees are to be paid.
 - (1) Assertion by writing. Small entity status may be established by a written assertion of entitlement to small entity status. A written assertion must:
 - (i) Be clearly identifiable;
 - (ii) Be signed (see paragraph (c)(2) of this section); and
 - (iii) Convey the concept of entitlement to small entity status, such as by stating that applicant is a small entity, or that small entity status is entitled to be asserted for the application or patent. While no specific words or wording are required to assert small entity status, the intent to assert small entity status must be clearly indicated in order to comply with the assertion requirement.
 - (2) Parties who can sign and file the written assertion. The written assertion can be signed by:
 - (i) One of the parties identified in § 1.33(b) (e.g., an attorney or agent registered with the Office), § 3.73(b) of this chapter notwithstanding, who can also file the written assertion;
 - (ii) At least one of the individuals identified as an inventor (even though a § 1.63 executed oath or declaration has not been submitted), notwithstanding § 1.33(b)(4), who can also file the written assertion pursuant to the exception under § 1.33(b) of this part; or
 - (iii) An assignee of an undivided part interest, notwithstanding §§ 1.33(b)(3) and 3.73(b) of this chapter, but the partial assignee cannot file the assertion without resort to a party identified under § 1.33(b) of this part.
 - (3) Assertion by payment of the small entity basic filing or basic national fee. The payment, by any party, of the exact amount of one of the small entity basic filing fees set forth in §§ 1.16(a), (f), (g), (h), or (k), or one of the small entity basic national fees set forth in §§ 1.492(a)(1), (a)(2), (a)(3), (a)(4), or (a)(5), will be treated as a written assertion of entitlement to small entity status even if the type of basic filing or basic national fee is inadvertently selected in error.
 - (i) If the Office accords small entity status based on payment of a small entity basic filing or basic national fee under paragraph (c)(3) of this section that is not applicable to that application, any balance of the small entity fee that is applicable to that application will be due along with the appropriate surcharge set forth in § 1.16(e), or § 1.16(l).
 - (ii) The payment of any small entity fee other than those set forth in paragraph (c)(3) of this section (whether in the exact fee amount or not) will not be treated as a written assertion of entitlement to small entity status and will not be sufficient to establish small entity status in an application or a patent."

WARNING: 37 C.F.R. § 1.27(c)(4): "Assertion required in related, continuing, and reissue applications. Status as a small entity must be specifically established by an assertion in each related, continuing and reissue application in which status is appropriate and desired. Status as a small entity in one application or patent does not affect the status of any other application or patent, regardless of the relationship of the applications or patents. The refiling of an application under § 1.53 as a continuation, divisional, or continuation-in-part application (including a continued prosecution application under § 1.53(d)), or the filing of a reissue application, requires a new assertion as to continued entitlement to small entity status for the continuing or reissue application." WARNING: "Small entity status must not be established when the person or persons signing the . . . statement can unequivocally make the required self-certification." M.P.E.P., § 509.03 (emphasis added). (complete the following, if applicable) Status as a small entity was asserted in the prior application 09 / 814,056, filed on March 22,200, from which benefit is being claimed for this application under: 35 U.S.C. § 🔲 119(e) 120 and which status as a small entity is still proper and asserted for this application. > A copy of the written assertion of small entity filed in the prior application is included. NOTE: A refund based on establishment of small entity status, of a portion of fees timely paid in full prior to establishing status as a small entity may only be obtained if an assertion under § 1.27(c) and a request for a refund of the excess amount are filed within three months of the date of the timely payment of the full fee. The three-month time period is not extendable under § 1.136. 37 C.F.R. § 1.28(a). Filing Fee Calculation (50% of A, B or C above) « 493.00 12. Request for International-Type Search (37 C.F.R. § 1.104(d)) (complete, if applicable) Please prepare an international-type search report for this application at the time when national examination on the merits takes place.

13. Fe	e Pa	aym	nent Being Made at This Time	
] [lot	Enclosed	
			No filing fee is to be paid at this time. (This and the surcharge required by 37 C.F.R. § 1.16 subsequently.)	G(e) can be paid
Ċ	3 E	ncl	losed	
			Filling fee	\$ <u>493.00</u>
			Recording assignment (\$40.00; 37 C.F.R. § 1.21(h)) (See attached "COVER SHEET FOR ASSIGNMENT ACCOMPANYING NEW APPLICATION".)	* 24
			Petition fee for filing by other than all the inventors or person on behalf of the inventor where inventor refused to sign or cannot be reached (\$130.00; 37 C.F.R. §§ 1.47 and 1.17(i))	\$
			For processing an application with a specification in a non-English language (\$130.00; 37 C.F.R. §§ 1.52(d) and 1.17(i))	\$
			Processing and retention fee (\$130.00; 37 C.F.R. §§ 1.53(d) and 1.21(l))	\$
			Fee for international-type search report (\$40.00; 37 C.F.R. § 1.21(e))	\$
NOTE:	failir 37 (eith	ng to C.F.F er th	R. § 1.21(I) establishes a fee for processing and retaining any application to complete the application pursuant to 37 C.F.R. § 1.53(f) and this, as we have a substitute of the second state of the basic filing fee must be paid, or the processing and retention fee of § 1 year from notification under § 53(f).	vell as the changes to prior U.S. application, 1.21(I) must be paid,
			Total fees enclosed \$_	493.60
			of Payment of Fees	
£		٩tta	ached is a \square check \square money order in the amount of \$ $\stackrel{L}{=}$	193,00
) <i>A</i>	۱uth	horization is hereby made to charge the amount of \$	
			to Deposit Account No.	
	[]	to Credit card as shown on the attached credit card infortion form PTO-2038.	
	_		redit card information should not be included on this form as it may bed	
[]	V (Cha n t ł	arge any additional fees required by this paper or credit he manner authorized above. To Deposit Accord	any overpayment No. 50-0310
			A duplicate of this paper is attached.	

15. Authorization to Charge Additional Fees

WARNING: If no fees are to be paid on filing, the following items should not be completed.

WARNING: Accurately count claims, especially multiple dependent claims, to avoid unexpected high charges,

if extra claim charges are authorized.

October 3, 2000, pages 14-39].

WARNING: Even though small entity status is accorded where the wrong type of small entity basic filing fee or basic national fee is selected but the exact amount of the fee is paid, applicant still needs to pay the correct small entity amount for the basic filing or basic national fee where selection of the wrong type of fee results in a deficiency. While an accompanying general authorization to charge any additional fees suffices to pay the balance due of the proper small entity basic filing or basic national fee, specific authorizations to charge fees under § 1.17 or extension of time fees do not suffice to pay any balance due of the proper small entity basic filing or basic national fee because they do not actually authorize payment of small entity amounts. Changes To Implement the Patent Business Goals; Final Rule [Fed. Reg.: September 8, 2000, pages 54603-54683, at 54611; OG:

The Office is hereby authorized to charge, in the manner shown above, the following additional fees that may be required by this paper and during the entire pendency of this application.

27 C.F.R. § 1.16(a), (f) or (g) (filing fees)

37 C.F.R. § 1.16(b), (c) and (d) (presentation of extra claims)

NOTE: Because additional fees for excess or multiple dependent claims not paid on filing or on later presentation must only be paid or these claims cancelled by amendment prior to the expiration of the time period set for response by the PTO in any notice of fee deficiency (37 C.F.R. § 1.16(d)), it might be best not to authorize the PTO to charge additional claim fees, except possibly when dealing with amendments after final action.

37 C.F.R. § 1.16(e) (surcharge for filing the basic filing fee and/or declaration on a date later than the filing date of the application)

37 C.F.R. § 1.17(a)(1)-(5) (extension fees pursuant to § 1.136(a)).

37 C.F.R. § 1.17 (application processing fees)

NOTE: ". . . A written request may be submitted in an application that is an authorization to treat any concurrent or future reply, requiring a petition for an extension of time under this paragraph for its timely submission, as incorporating a petition for extension of time for the appropriate length of time. An authorization to charge all required fees, fees under § 1.17, or all required extension of time fees will be treated as a constructive petition for an extension of time in any concurrent or future reply requiring a petition for an extension of time under this paragraph for its timely submission. Submission of the fee set forth in § 1.17(a) will also be treated as a constructive petition for an extension of time in any concurrent reply requiring a petition for an extension of time under this paragraph for its timely submission." 37 C.F.R. § 1.136(a)(3).

☐ 37 C.F.R. § 1.18 (issue fee at or before mailing of Notice of Allowance, pursuant to 37 C.F.R. § 1.311(b))

NOTE: Section 1.311(b) provides that an authorization to charge the issue fee (§ 1.18) to a deposit account may be filed in an individual application only after the mailing of the notice of allowance. Accordingly, general authorizations to pay fees and specific authorizations to pay the issue fee that are filed prior to the mailing of a notice of allowance will generally not be treated as requesting payment of the issue fee and will not be given effect to act as a reply to the notice of allowance. Applicant, when paying the issue fee, should submit a new authorization to charge fees, such as by completing box 6b on the current PTOL-85B form. Where no reply to the notice of allowance is received, the application will stand abandoned notwithstanding the presence of general authorizations to pay fees or a specific authorization to pay the issue fee that were submitted prior to mailing of the notice of allowance. Where an attempt is made to pay the issue fee but an incorrect amount is submitted, § 1.311(b)(1), or where the Office's issue fee transmittal form (currently PTOL-85(B)) is completed by applicant and submitted, § 1.311(b)(2), in reply to a notice of allowance, an exception will be made. Such submissions will operate as a request to charge the issue fee to any deposit account identified in a previously filed (i.e., submitted prior to the mailing of the notice of allowance) authorization to charge fees, and will be allowed to act as payment of the correct issue fee. § 1.311(b). See also the change to § 1.26(b). Notice of September 8, 2000, Fed. Reg. 54603-54683, at 54646 and 54647.

NOTE: 37 C.F.R. § 1.28(b) requires "Notification of any change in status resulting in loss of entitlement to small entity status must be filed in the application . . . prior to paying, or at the time of paying, . . . the issue fee. . . " From the wording of 37 C.F.R. § 1.28(b), (a) notification of change of status must be made even if the fee is paid as "other than a small entity" and (b) no notification is required if the change is to another small entity.

16. Instructions as to Overpayment

NOTE: ". . . Amounts of twenty-five dollars or less will not be returned unless specifically requested within a reasonable time, nor will the payer be notified of such amounts; amounts over twenty-five dollars may be returned by check or, if requested, by credit to a deposit account." 37 C.F.R. § 1.26(a).

Credit Account No. 50-0310

☐ Refund

Reg. No. 33,70(

Tel. No. (218 963 - 5055

Customer No.

SIGNATURE OF PRACTITIONER

Daniel H. Golub

(type or print name of attorney)

1701 Warket Street

P.O. Address

Philadelphia, PA 19103-2921

W	Incorporation by reference of added pages
	(check the following item if the application in this transmittal claims the benefit of prior U.S. application(s) (including an international application entering the U.S stage as a continuation, divisional or C-I-P application) and complete and attach the ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED)
	Plus Added Pages for New Application Transmittal Where Benefit of Prior U.S Application(s) Claimed
	Number of pages added
	Plus Added Pages for Papers Referred to in Item 4 Above
	Number of pages added
	Plus added pages deleting names of inventor(s) named in prior application(s who is/are no longer inventor(s) of the subject matter claimed in this application
	Number of pages added
	☐ Plus "Assignment Cover Letter Accompanying New Application"
	Number of pages added
	Statement Where No Further Pages Added
	(if no further pages form a part of this Transmittal, then end this Transmittal with this page and check the following item)
	☐ This transmittal ends with this page.

ADDED PAGE(S) FOR SPECIAL COMMENTS FOR NEW APPLICATION TRANSMITTAL

Added page ______ (Added Page(s) for Special Comments for New Application Transmittal [4–1]—page 15 of 15)

ADDED PAGES FOR APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED (37 C.F.R. § 1.78)

, ,

17. Relate Back

WARNING: If an application claims the benefit of the filing date of an earlier filed application under 35 U.S.C. § 120, 121 or 365(c), the 20-year term of that application will be based upon the filing date of the earliest U.S. application that the application makes reference to under 35 U.S.C. § 120, 121 or 365(c). (35 U.S.C. § 154(a)(2) does not take into account, for the determination of the patent term, any application on which priority is claimed under 35 U.S.C. § 119, 365(a) or 365(b).) For a c-I-p application, applicant should review whether any claim in the patent that will issue is supported by an earlier application and, if not, the applicant should consider canceling the reference to the earlier filed application. The term of a patent is not based on a claim-by-claim approach. See Notice of April 14, 1995, 60 Fed. Reg. 20,195, at 20,205.

(complete the following, if applicable)

Amend the specification by inserting, before the first line following the title, the following sentence:

A. 35 U.S.C. § 119(e)

NOTE: 37 C.F.R. § 1.78(a)(4) and (5):

"(4) A nonprovisional application, other than for a design patent, or an international application designating the United States of America may claim an invention disclosed in one or more prior-filed provisional applications. In order for an application to claim the benefit of one or more prior-filed provisional applications, each prior-filed provisional application must name as an inventor at least one inventor named in the later-filed application and disclose the named inventor's invention claimed in at least one claim of the later-filed application in the manner provided by the first paragraph of 35 U.S.C. 112. In addition, each prior-filed provisional application must be entitled to a filing date as set forth in § 1.53(c), and the basic filing fee set forth in § 1.16(k) must be paid within the time period set forth in § 1.53(g).

"(5)(i) Any nonprovisional application or international application designating the United States of America claiming the benefit of one or more prior-filed provisional applications must contain or be amended to contain a reference to each such prior-filed provisional application, identifying it by the provisional application number (consisting of series code and serial number).

(ii) This reference must be submitted during the pendency of the later-filed application. If the later-filed application is an application filed under 35 U.S.C. 111(a), this reference must also be submitted within the later of four months from the actual filing date of the later-filed application or sixteen months from the filing date of the prior-filed provisional application. If the later-filed application is a nonprovisional application which entered the national stage from an international application after compliance with 35 U.S.C. 371, this reference must also be submitted within the later of four months from the date on which the national stage commenced under 35 U.S.C. 371(b) or (f) in the later-filed international application or sixteen months from the filing date of the prior-filed provisional application. These time periods are not extendable. Except as provided in paragraph (a)(6) of this section, the failure to timely submit the reference is considered a waiver of any benefit under 35 U.S.C. 119(e) to such prior-filed provisional application. The time periods in this paragraph do not apply if the later-filed application is:

- (A) An application filed under 35 U.S.C. 111(a) before November 29, 2000; or
- (B) A nonprovisional application which entered the national stage after compliance with 35 U.S.C. 371 from an international application filed under 35 U.S.C. 363 before November 29, 2000.
- (iii) If the later-filed application is a nonprovisional application, the reference required by this paragraph must be included in an application data sheet (§ 1.76), or the specification must contain or be amended to contain such reference in the first sentence following the title."

(Added Pages for Application Transmittal Where Benefit of Prior U.S. Application(s) Claimed [4-1.4]
—page 1 of 8)

	"This application claims the benefit of U.S. APPLICATION NO(S).:	Provisional Application(s) No(s).:
WARNING:	37 C.F.R. § 1.78(5)(iv): "(iv) If the prior-filed provision than English and an English-language translation of statement that the translation is accurate were not application or the later-filed nonprovisional application of time within which to file an English-language transprovisional application and a statement that the translapplication, failure to timely reply to such a notice within the translapplication, failure to timely reply to such a notice within the translapplication.	f the prior-filed provisional application and a previously filed in the prior-filed provisional n, applicant will be notified and given a period slation of the non-English-language prior-filed lation is accurate. In a pending nonprovisional
	Language of Prior Filed Provision	onal Application
(S	upply information for each provisional whos	se benefit is being claimed)
The above	identified prior filed provisional application	whose benefit is being claimed
	was filed in the English language	•
	was filed in a language other than English a a statement that the translation is accurate w	
	was filed in a language other than English a a statement that the translation is accurate	
B. 35 L	J.S.C. Sections 120, 121 and 365(c)	
WARNING:	The applicable provisions for the time and manner of filing date are set forth in 37 C.F.R. § 1.78(a)(1) and	
	"(a)(1) A nonprovisional application or international America may claim an invention disclosed in one of applications or international applications designating	r more prior-filed copending nonprovisional

application to claim the benefit of a prior-filed copending nonprovisional application or international application designating the United States of America, each prior-filed application must name as

an inventor at least one inventor named in the later-filed application and disclose the named inventor's invention claimed in at least one claim of the later-filed application in the manner provided by the first paragraph of 35 U.S.C. 112. In addition, each prior-filed application must be:

- (i) An international application entitled to a filing date in accordance with PCT Article 11 and designating the United States of America; or
 - (ii) Complete as set forth in § 1.51(b); or
- (iii) Entitled to a filing date as set forth in § 1.53(b) or § 1.53(d) and include the basic filing fee set forth in § 1.16; or
- (iv) Entitled to a filing date as set forth in § 1.53(b) and have paid therein the processing and retention fee set forth in § 1.21(I) within the time period set forth in § 1.53(f).

(Added Pages for Application Transmittal Where Benefit of Prior U.S. Application(s) Claimed [4-1.4] -page 2 of 8)

- (2)(i) Except for a continued prosecution application filed under § 1.53(d), any nonprovisional application or international application designating the United States of America claiming the benefit of one or more prior-filed copending nonprovisional applications or international applications designating the United States of America must contain or be amended to contain a reference to each such prior-filed application, identifying it by application number (consisting of the series code and serial number) or international application number and international filing date and indicating the relationship of the applications. Cross references to other related applications may be made when appropriate (see § 1.14).
 - (ii) This reference must be submitted during the pendency of the later-filed application. If the later-filed application is an application filed under 35 U.S.C. 111(a), this reference must also be submitted within the later of four months from the actual filing date of the later-filed application or sixteen months from the filing date of the prior-filed application. If the later-filed application is a nonprovisional application which entered the national stage from an international application after compliance with 35 U.S.C. 371, this reference must also be submitted within the later of four months from the date on which the national stage commenced under 35 U.S.C. 371(b) or (f) in the later-filed international application or sixteen months from the filing date of the prior-filed application. These time periods are not extendable. Except as provided in paragraph (a)(3) of this section, the failure to timely submit the reference required by 35 U.S.C. 120 and paragraph (a)(2)(i) of this section is considered a waiver of any benefit under 35 U.S.C. 120, 121, or 365(c) to such prior-filed application. The time periods in this paragraph do not apply if the later-filed application is:
 - (A) An application for a design patent;
 - (B) An application filed under 35 U.S.C. 111(a) before November 29, 2000; or
 - (C) A nonprovisional application which entered the national stage after compliance with 35 U.S.C. 371 from an international application filed under 35 U.S.C. 363 before November 29, 2000.
 - (iii) If the later-filed application is a nonprovisional application, the reference required by this paragraph must be included in an application data sheet (§ 1.76), or the specification must contain or be amended to contain such reference in the first sentence following the title.
 - (iv) The request for a continued prosecution application under § 1.53(d) is the specific reference required by 35 U.S.C. 120 to the prior-filed application. The identification of an application by application number under this section is the identification of every application assigned that application number necessary for a specific reference required by 35 U.S.C. 120 to every such application assigned that application number."

"	This application is a	
S	d continuation	
7	☑ continuation-in-part	
	divisional	•
	nding application(s)	
" † დ	application number 09/814,056	_ filed on March 22,2001
	International Applicationwhich designated the U.S."	filed on and
NOTE:	The proper reference to a prior filed PCT application that a serial number and the filing date of the PCT application the	
NOTE:	(1) Where the application being transmitted adds subject in the filing can be as a continuation-in-part or (2) if it is desire can be as a continuation.	
	(Added Pages for Application Transmittal Where Benefit of	of Prior U.S. Application(s) Claimed [4-1.4] —page 3 of 8

	"The nonprovisional application designation designatio	
	Provisional Application(s) No(s).:	, claims the benefit of U.S.
	APPLICATION NO(S).:	FILING DATE
	All EloAllon No(o).	TEMO DATE
C. Pu	blication of International Application—Pr	ovisional Application
NOTE: 3	5 U.S.C. 154 Contents and term of patent; provisional	al rights.
	(d)(4) REQUIREMENTS FOR INTERNATIONAL AP	PLICATIONS—
	(A) EFFECTIVE DATE.—The right under paragraph the publication under the treaty defined in section 3 the United States shall commence on the date on a copy of the publication under the treaty of the international application is in a language.	151(a) of an international application designating which the Patent and Trademark Office receives mational application, or, if the publication under guage other than English, on the date on which on of the international application in the English
The inte	ernational application corresponding to the	instant application
	was	•
	was not	
published	under PCT Article 21(2) in the English lan	guage.
	An English translation of the international	application is attached.
18. Rela	te Back-35 U.S.C. § 119 Priority Claim	for Prior Application
NOTE: 3	7 C.F.R. § 1.55 Claim for foreign priority.	
	"(a) An applicant in a nonprovisional application mamore prior foreign applications under the conditions (f), 172, and 365(a) and (b).	y claim the benefit of the filing date of one or specified in 35 U.S.C. 119(a) through (d) and
	(1)(i) In an original application filed under 35 U.S.C. during the pendency of the application, and within date of the application or sixteen months from the time period is not extendable. The claim must iden claimed, as well as any foreign application for the before that of the application for which priority is country (or intellectual property authority), day, mor paragraph does not apply to an application for a definition of the second	the later of four months from the actual filing filing date of the prior foreign application This tify the foreign application for which priority is same subject matter and having a filing date claimed, by specifying the application number, th, and year of its filing. The time period in this

(ii) In an application that entered the national stage from an international application after compliance with 35 U.S.C. 371, the claim for priority must be made during the pendency of the application and within the time limit set forth in the PCT and the Regulations under the PCT."

(2) The claim for priority and the certified copy of the foreign application specified in 35 U.S.C. 119(b) or PCT Rule 17 must, in any event, be filed before the patent is granted. If the claim for priority or the certified copy of the foreign application is filed after the date the issue fee is paid, it must be accompanied by the processing fee set forth in § 1.17(i), but the patent will not include the priority claim unless corrected by a certificate of correction under 35 U.S.C. 255 and § 1.323.

U.S., identified above in item 17B, in turn itself claim(s) foreign priority(ies) as follows: Appln. No. Filed Country The certified copy(ies) has (have) ____, in prior application 0 /_____ been filed on _ which was filed on __ is (are) attached. WARNING: The certified copy of the priority application that may have been communicated to the PTO by the International Bureau may not be relied on without any need to file a certified copy of the priority application in the continuing application. This is so because the certified copy of the priority application communicated by the International Bureau is placed in a folder and is not assigned a U.S. serial number unless the national stage is entered. Such folders are disposed of if the national stage is not entered. Therefore, such certified copies may not be available if needed later in the prosecution of a continuing application. An alternative would be to physically remove the priority documents from the folders and transfer them to the continuing application. The resources required to request transfer, retrieve the folders, make suitable record notations, transfer the certified copies, enter and make a record of such copies in the Continuing Application are substantial. Accordingly, the priority documents in folders of international applications that have not entered the national stage may not be relied on. Notice of April 28, 1987 (1079 O.G. 32 to 46). 19. Maintenance of Copendency of Prior Application NOTE: The PTO finds it useful if a copy of the petition filed in the prior application extending the term for response is filed with the papers constituting the filing of the continuation application. Notice of November 5, 1985 (1060 O.G. 27). A.

Extension of time in prior application (This item must be completed and the papers filed in the prior application, if the period set in the prior application has run.) ☐ A petition, fee and response extends the term in the pending **prior** application A copy of the petition filed in prior application is attached. B.

Conditional Petition for Extension of Time in Prior Application (complete this item, if previous item not applicable) A conditional petition for extension of time is being filed in the pending **prior** application. A copy of the conditional petition filed in the prior application is attached. (Added Pages for Application Transmittal Where Benefit of Prior U.S. Application(s) Claimed [4-1.4] ---page 5 of 8)

The prior U.S. application(s), including any prior International Application designating the

20.	Furt	ner II	nvent ranip stat m nt wn re B n nt T Pri r Applicati n(s) Claim d
		,	(complete applicable item (a), (b) and/or (c) below)
(a)	12	app	s application discloses and claims only subject matter disclosed in the prior lication whose particulars are set out above and the inventor(s) in this light are
			the same.
			less than those named in the prior application. It is requested that the following inventor(s) identified for the prior application be deleted:
			(type name(s) of inventor(s) to be deleted)
(b)		a ne	s application discloses and claims additional disclosure by amendment and ew declaration or oath is being filed. With respect to the prior application, inventor(s) in this application are
			the same.
			the following additional inventor(s) have been added:
			(type name(s) of inventor(s) to be deleted)
(c)		The	inventorship for all the claims in this application are
			the same.
	-		not the same. An explanation, including the ownership of the various claims at the time the last claimed invention was made $$
			is submitted.
			will be submitted.
21.	Abaı	ndon	ment of Prior Application (if applicable)
		pen is g	ase abandon the prior application at a time while the prior application is ding, or when the petition for extension of time or to revive in that application ranted, and when this application is granted a filing date, so as to make this lication copending with said prior application.
NOT	p. re	art ap _l evive a	ing to the Notice of May 13, 1983 (103, TMOG 6-7), the filing of a continuation or continuation-in- olication is a proper response with respect to a petition for extension of time or a petition to and should include the express abandonment of the prior application conditioned upon the g of the petition and the granting of a filing date to the continuing application.
22.		tion ndm	for Suspension of Prosecution for the Time Necessary to File an ent
WAI	RNING	wh and ear in t	the claims of a new application may be finally rejected in the first Office action in those situations here (A) the new application is a continuing application of, or a substitute for, an earlier application, d (B) all the claims of the new application (1) are drawn to the same invention claimed in the riler application, and (2) would have been properly finally rejected on the grounds of art of record the next Office action if they had been entered in the earlier application." M.P.E.P. § 706.07(b), in ed.
NOT	a	nd for :	t is possible that the claims on file will give rise to a first action final for this continuation application some reason an amendment cannot be filed promptly (e.g., experimental data is being gathered) be desirable to file a petition for suspension of prosecution for the time necessary.
			(check the next item, if applicable)
			provided herewith a Petition To Suspend Prosecution for the Time Necessary Amendment (New Application Filed Concurrently)
			Pages for Application Transmittal Where Benefit of Prior U.S. Application(s) Claimed [4–1.4] —page 6 of 8)

23.	Sma	# Entity (37 C.F.R. § 1.28(a))
	Ø	Applicant has established small entity status by the filing of a statement in parent application 09 / \$14,056 on Warch 22,2001
		A copy of the statement previously filed is included.
WA	RNING	: See 37 C.F.R. § 1.28(a).
WA	RNING	"Small entity status must not be established when the person or persons signing the statement can unequivocally make the required self-certification." M.P.E.P. § 509.03, 7th ed. (emphasis added).
24.	NOT	FICATION IN PARENT APPLICATION OF THIS FILING
		A notification of the filing of this
		(check one of the following)
		☐ continuation
		☐ continuation-in-part
		☐ divisional
is be	ing fil	ed in the parent application, from which this application claims priority under 35

ADDED PAGE(S) FOR APPLICATION TRANSMITTAL WHERE BENEFIT OF A PRIOR U.S. APPLICATION CLAIMED

Added page _____